


```
RRRRRRRR      MM      MM      11      CCCCCCCC      RRRRRRRR      EEEEEEEEEEE      AAAAAA      TTTTTTTTTTT      EEEEEEEEEEE
RRRRRRRR      MM      MM      11      CCCCCCCC      RRRRRRRR      EEEEEEEEEEE      AAAAAA      TTTTTTTTTTT      EEEEEEEEEEE
RR      RR      MMMM      MMMM      1111      CC      CCCCCCCC      RR      RR      EE      EE      AA      AA      TT      TT      EE
RR      RR      MMMM      MMMM      1111      CC      CCCCCCCC      RR      RR      EE      EE      AA      AA      TT      TT      EE
RR      RR      MM      MM      11      CC      CCCCCCCC      RR      RR      EE      EE      AA      AA      TT      TT      EE
RR      RR      MM      MM      11      CC      CCCCCCCC      RRRRRRRR      EEEEEEEEEEE      AA      AA      TT      TT      EEEEEEEEE
RRRRRRRR      MM      MM      11      CC      CCCCCCCC      RRRRRRRR      EEEEEEEEEEE      AA      AA      TT      TT      EEEEEEEEE
RRRRRRRR      MM      MM      11      CC      CCCCCCCC      RR      RR      EE      EE      AAAAAAAAAA      TT      EE
RR      RR      MM      MM      11      CC      CCCCCCCC      RR      RR      EE      EE      AAAAAAAAAA      TT      EE
RR      RR      MM      MM      11      CC      CCCCCCCC      RR      RR      EE      EE      AA      AA      TT      TT      EE
RR      RR      MM      MM      11      CC      CCCCCCCC      RR      RR      EE      EE      AA      AA      TT      TT      EE
RR      RR      MM      MM      111111      CCCCCCCC      RR      RR      EEEEEEEEEEE      AA      AA      TT      TT      EEEEEEEEE
RR      RR      MM      MM      111111      CCCCCCCC      RR      RR      EEEEEEEEEEE      AA      AA      TT      TT      EEEEEEEEE
```

```
LL      IIIIII      SSSSSSSS
LL      IIIIII      SSSSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SSSSSS
LL      II      SSSSSS
LL      II      SS
LL      II      SS
LL      II      SS
LL      II      SS
LLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLL      IIIIII      SSSSSSSS
```


(3) 77
(4) 103

DECLARATIONS
RM\$CREATE1 - SEQUENTIAL CREATE ROUTINE

```

0000 1          $BEGIN RM1CREATE,000,RMSRMS1,<SEQUENTIAL-SPECIFIC CREATE>
0000 2
0000 3
0000 4 :*****
0000 5 :*
0000 6 :*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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0000 17 :*  THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
0000 18 :*  AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
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0000 21 :*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 22 :*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 23 :*
0000 24 :*****
0000 25 :
0000 26 :

```



```
0000 28 :++  
0000 29 : Facility: rms32  
0000 30 :  
0000 31 : Abstract:  
0000 32 :  
0000 33 :     this routine performs the sequential file  
0000 34 :     organization-specific create processing.  
0000 35 :  
0000 36 : Environment:  
0000 37 :     star processor running starlet exec.  
0000 38 :  
0000 39 : Author: L F Laverdure,      Creation Date: 11-MAY-1977  
0000 40 :  
0000 41 : Modified By:  
0000 42 :  
0000 43 :     V03-004 KBT0428      Keith B. Thompson      3-Dec-1982  
0000 44 :     Change ifb$w_devbufsiz to ifb$l_devbufsiz  
0000 45 :  
0000 46 :     V03-003 MCN0001      Maria del C. Nasr      30-Nov-1982  
0000 47 :     Do not round up device buffer size to multiple of four  
0000 48 :     if device is foreign magtape.  
0000 49 :  
0000 50 :     V03-002 KBT0137      Keith B. Thompson      20-Aug-1982  
0000 51 :     Reorganize psects  
0000 52 :  
0000 53 :     V03-001 KBT0094      Keith B. Thompson      13-Jul-1982  
0000 54 :     Clean up psects  
0000 55 :  
0000 56 :     V02-017 CDS0001      C Saether      31-Aug-1981  
0000 57 :     Always set NORECLK if not disk (RND).  
0000 58 :  
0000 59 :     V02-016 RAS0020      Ron Schaefer      6-Aug-1981  
0000 60 :     Correct fixed record length limit for magtape.  
0000 61 :     ANY size record is permitted as long as the blocks  
0000 62 :     are larger than 18 bytes.  
0000 63 :  
0000 64 :     V02-015 RAS0016      Ron Schaefer      6-Aug-1981  
0000 65 :     allow stream files to any device; actual GET/PUT logic  
0000 66 :     is prepared to ignore the format if necessary.  
0000 67 :  
0000 68 :     V014 REFORMAT      D M WALP      24-JUL_1980  
0000 69 :  
0000 70 :     V013 CDS0021      C SAETHER      26-JUL-1979      22:30  
0000 71 :     take file sharing checks out of rm$create1  
0000 72 :  
0000 73 : --  
0000 74 :  
0000 75 :
```

```

0000 77      .SBTTL DECLARATIONS
0000 78
0000 79 :
0000 80 : Include Files:
0000 81 :
0000 82 :
0000 83 :
0000 84 : Macros:
0000 85 :
0000 86 :
0000 87      $FABDEF
0000 88      $IFBDEF
0000 89      $DEVDEF
0000 90      $RMSDEF
0000 91
0000 92 :
0000 93 : Equated Symbols:
0000 94 :
0000 95 :
00000020 0000 96      FOP=FAB$L_FOP*8      ; bit offset to fop
0000 97
0000 98 :
0000 99 : Own Storage:
0000 100 :
0000 101

```

```
0000 103      .SBTTL RM$CREATE1 - SEQUENTIAL CREATE ROUTINE
0000 104
0000 105      :++
0000 106      RM$CREATE1
0000 107
0000 108      RM$CREATE1
0000 109
0000 110      this routine performs all of the file create
0000 111      functions that are specific to the sequential
0000 112      file organization, including:
0000 113
0000 114      1. checking that write-sharing has not been specified
0000 115      2. allowing user to override default block size for magtape
0000 116      3. performing eof positioning to start of file
0000 117      4. checking xab chain validity
0000 118      5. calling the common create routine
0000 119
0000 120      Calling sequence:
0000 121
0000 122      entered via case branch from rm$open
0000 123      returns by jumping to rm$createxit
0000 124
0000 125      Input Parameters:
0000 126
0000 127      r11      impure area address
0000 128      r10      fwa address
0000 129      r9       ifab address
0000 130      r8       fab address
0000 131
0000 132      Implicit Inputs:
0000 133
0000 134      the contents of the fab, ifab, & fwa.
0000 135
0000 136      Output Parameters:
0000 137
0000 138      r0       status code
0000 139      r1-r7    destroyed
0000 140
0000 141      Implicit Outputs:
0000 142
0000 143      various fields in the ifab & fab are initialized.
0000 144
0000 145      Completion Codes:
0000 146
0000 147      standard rms
0000 148
0000 149      Side Effects:
0000 150
0000 151      none
0000 152
0000 153      :--
0000 154
```



```
0000 156 RMSCREATE1::
0000 157 $STSTPT CREATE1
0006 158
0006 159 ;
0006 160 ; providing interlocking
0006 161 ;
0006 162
69 1C E0 0006 163 BBS #DEV$V_RND,IFB$L_PRIM_DEV(R9),-
2E 0009 164 SETBL1 ; branch if disk
000A 165
000A 166 SSB #IFB$V_NORECLK,(R9) ; never do locking if not disk.
51 A9 08 8A 000E 167 BICB2 #FAB$M_BLK,IFB$B_RAT(R9); clear blk for unit rec devices
69 05 E1 0012 168 BBC #DEV$V_SQD,IFB$L_PRIM_DEV(R9),-
16 0015 169 SETBLS ; branch if not mt
0016 170
0016 171 ;
0016 172 ; force 'records can't cross block boundaries' and
0016 173 ; check for default block size override for magtape
0016 174 ;
0016 175
51 3C A8 B0 0016 176 MOVW FAB$W_BLS(R8),R1 ; get block size
0C 13 001A 177 BEQL 20$ ; branch if not speced
12 51 B1 001C 178 CMPW R1,#18 ; is block size ge min.
03 1E 001F 179 BGEQU 10$ ; branch if yes
51 12 B0 0021 180 MOVW #18,R1 ; minimum record size
48 A9 51 3C 0024 181 10$: MOVZWL R1,IFB$L_DEVBUFSIZ(R9) ; set device buffer size
0028 182
0028 183 20$: SSB #IFB$V_ANSI_D,(R9) ; flag as ansi
002C 184
002C 185 ;
002C 186 ; round up bls & return it
002C 187 ;
002C 188
69 18 E0 002C 189 SETBLS: BBS #DEV$V_FOR,IFB$L_PRIM_DEV(R9),-
08 002F 190 SETBLT ; do not round up if foreign magtape
48 A9 03 C0 0030 191 ADDL2 #3,IFB$L_DEVBUFSIZ(R9)
48 A9 03 CA 0034 192 BICL2 #3,IFB$L_DEVBUFSIZ(R9)
3C A8 48 A9 B0 0038 193 SETBL1: MOVW IFB$L_DEVBUFSIZ(R9),FAB$W_BLS(R8)
008C C9 06 E1 003D 194 BBC #DEV$V_SPL,IFB$L_AS_DEV(R9),-
06 0042 195 SETEOF ; branch if device not spooled
0094 C9 B0 0043 196 MOVW IFB$L_ASDEVBSIZ(R9),-
3C A8 0047 197 FAB$W_BLS(R8) ; return assigned device buf size
0049 198
0049 199 ;
0049 200 ; set eof block to vbn 1 and first free byte to 0.
0049 201 ;
0049 202
74 A9 D6 0049 203 SETEOF: INCL IFB$L_EBK(R9) ; eof at vbn 1
004C 204
004C 205 ;
004C 206 ; if fixed record format and 'blk' set in rat,
004C 207 ; make sure record size is less than 1 block
004C 208 ;
004C 209
50 A9 91 004C 210 CMPB IFB$B_RFMORG(R9),-
01 004F 211 #FAB$C_FIX ; fixed rfm?
0C 12 0050 212 BNEQ CHKXAB ; branch if not
```



```
51 A9 03 E1 0052 213 BBC #FAB$V_BLK,IFB$B_RAT(R9),-
      07 0056 214 CHKXAB ; branch if 'blk' not speced
60 A9 B1 0057 215 CMPW IFB$W_MRS(R9),-
48 A9 005A 216 IFB$L_DEVBUSIZ(R9) ; does record fit?
      14 1A 005C 217 BGTRU RM$CRE_ERRMRS ; branch if not
      005E 218
      005E 219 ;++
      005E 220 ;
      005E 221 ; entry point for block i/o create for unknown file org
      005E 222 ;
      005E 223 ;--
      005E 224
      005E 225 RM$BIO_CREATE::
      005E 226
      005E 227 ;
      005E 228 ; process allocation xab if present, and set deq and rtdeq
      005E 229 ;
      005E 230
      005E 231 CHKXAB:
FF9F' 30 005E 232 BSBW RM$SETALLOC
07 50 E9 0061 233 BLBC RO,EXIT
      0064 234
      0064 235 ;
      0064 236 ; call the common create file routine
      0064 237 ;
      0064 238
FF99' 30 0064 239 BSBW RM$CREATECOM
      0067 240
      0067 241 ;
      0067 242 ; note that file is positioned at eof in the ifab
      0067 243 ; so that connect will be set up for $put.
      0067 244 ;
      0067 245
      0067 246
FF92' 31 006B 247 EXIT: SSB #IFB$V_EOF,(R9) ; flag eof
      BRW RM$CREATEXIT
```

```
006E 249
006E 250 ;
006E 251 ; handle errors
006E 252 ;
006E 253
06 10 006E 254 RM$CRE_ERRRFM::
006E 255 BSBB ERROR ; rfm not udf,fix,var, or vfc
0070 256 RMSERR_WORD RFM ; for non-disk device
0072 257
02 10 0072 258 RM$CRE_ERRMRS::
0072 259 BSBB ERROR ; fixed record length <18
0074 260 RMSERR_WORD MRS ; for magtape or > bls and 'blk' set
0076 261
50 9E 3C 0076 262 ERROR: MOVZWL @(SP)+,R0 ; pick up error code
FF84' 31 0079 263 BRW RM$CREATEEXIT ; and get out
007C 264
007C 265 .END
```


RM1CREATE
Symbol table

SEQUENTIAL-SPECIFIC CREATE

E 10

16-SEP-1984 00:46:26
5-SEP-1984 16:23:15

VAX/VMS Macro V04-00
[RMS.SRC]RM1CREATE.MAR;1

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```
$$PSECT EP          = 00000000
$$RMSTEST           = 0000001A
$$RMS_PBUGCHK       = 00000010
$$RMS_TBUGCHK       = 00000008
$$RMS_UMODE         = 00000004
CHKXAB              = 00000005E R    01
DEV$V_FOR           = 00000018
DEV$V_RND           = 0000001C
DEV$V_SPL           = 00000006
DEV$V_SQD           = 00000005
ERROR               = 00000076 R    01
EXIT                = 0000006B R    01
FAB$C_FIX           = 00000001
FAB$C_FOP           = 00000004
FAB$M_BLK           = 00000008
FAB$V_BLK           = 00000003
FAB$W_BLS           = 0000003C
FOP                 = 00000020
IFB$B_RAT           = 00000051
IFB$B_RFMORG        = 00000050
IFB$C_ASDEVBSIZ     = 00000094
IFB$C_AS_DEV        = 0000008C
IFB$C_DEVBUFSIZ     = 00000048
IFB$C_EBK           = 00000074
IFB$C_PRIM_DEV      = 00000000
IFB$V_ANSI_D        = 00000026
IFB$V_EOF            = 00000021
IFB$V_NORECLK       = 00000033
IFB$W_MRS           = 00000060
PIC$A_TRACE         ***** X    01
RMS$BIO_CREATE      = 0000005E RG   01
RMS$CREATE1         = 00000000 RG   01
RMS$CREATECOM       ***** X    01
RMS$CREATEEXIT      ***** X    01
RMS$CRE_ERRMRS      = 00000072 RG   01
RMS$CRE_ERRRFM      = 0000006E RG   01
RMS$SETALLOC        ***** X    01
RMS$MRS             = 000185D4
RMS$RFM             = 00018664
SETB$1              = 00000038 R    01
SETBLS              = 0000002C R    01
SETEOF              = 00000049 R    01
TPT$C_CREATE1       ***** X    01
```

+-----+
! Psect synopsis !
+-----+

PSECT name

PSECT name	Allocation	PSECT No.	Attributes
ABS	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
RMSRMS1	0000007C (124.)	01 (1.)	PIC USR CON REL GBL NOSHR EXE RD NOWRT NOVEC BYTE
SAB\$S	00000000 (0.)	02 (2.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE

+-----+
! Performance indicators !
+-----+

Phase	Page faults	CPU Time	Elapsed Time
-----	-----	-----	-----
Initialization	33	00:00:00.09	00:00:00.49
Command processing	114	00:00:00.71	00:00:04.11
Pass 1	236	00:00:05.92	00:00:18.44
Symbol table sort	0	00:00:00.68	00:00:01.06
Pass 2	57	00:00:01.23	00:00:03.30
Symbol table output	7	00:00:00.07	00:00:00.07
Psect synopsis output	1	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	450	00:00:08.72	00:00:27.49

The working set limit was 1350 pages.

33677 bytes (66 pages) of virtual memory were used to buffer the intermediate code.

There were 40 pages of symbol table space allocated to hold 665 non-local and 5 local symbols.

265 source lines were read in Pass 1, producing 13 object records in Pass 2.

16 pages of virtual memory were used to define 15 macros.

+-----+
! Macro library statistics !
+-----+

Macro library name	Macros defined
-----	-----
\$255\$DUA28:[RMS.OBJ]RMS.MLB;1	7
\$255\$DUA28:[SYS.OBJ]LIB.MLB;1	0
\$255\$DUA28:[SYSLIB]STARLET.MLB;2	4
TOTALS (all libraries)	11

747 GETS were required to define 11 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS\$:RM1CREATE/OBJ=OBJ\$:RM1CREATE MSRC\$:RM1CREATE/UPDATE=(ENH\$:RM1CREATE)+EXECMLS/LIB+LIB\$:RMS/LIB

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